

Virginia Division of Consolidated Laboratory Services

HYDROGEN SULFIDE CONTENT OF FUEL GAS STREAMS IN PETROLEUM REFINERIES EPA METHOD 11					
Facility Name: _____ VELAP ID: _____					
Assessor Name: _____ Analyst Name: _____ Inspection Date: _____					
Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Records Examined: SOP Number/ Revision/ Date _____ Analyst: _____					
Sample ID: _____ Date of Sample Preparation: _____ Date of Analysis: _____					
When impingers were used, were their tips 4 to 6 mm from impinger bottoms?	6.1.2				
When previously used silica gel was used in drying tubes, was it dried at 175°C for 2 hours?	6.1.5				
Were Dry Gas Meters able to measure sample volume within 2% when calibrated to the selected flow rate?	6.1.7				
Were the temperature measurement devices in the gas meter able to measure temperature to within 3°C?	6.1.7				
Were the gas volumes for one revolution of the gas meter never more than 10 liters?	6.1.7				
Were barometers able to measure pressure to within 2 mm Hg?	6.1.10				
When barometric pressures were obtained from National Weather Service Stations, were they adjusted at a rate of 2.5 mm Hg per 30 m for differences between Station elevation and sampling site elevation?	6.1.10				
Was the 3% Hydrogen Peroxide Solution prepared fresh daily?	7.1.2				
Was ASTM D 1193-77 or 91, Type 3 Deionized Water used?	7.1.3				
Were iodine solutions stored in brown-glass containers?	7.2.3				
Was a five midjet impinger sample train used with 15 mL of 3% H <sub>2</sub> O <sub>2</sub> in the first impinger; the second impinger empty; and 15 mL of CdSO <sub>4</sub> Solution in the third, fourth, and fifth impingers?	8.1				
Were sample trains determined to be free from leaks and hold 25 cm water pressure with no more than a 1 cm/ 1 minute pressure drop?	8.2.1				
Notes/Comments:					

Virginia Division of Consolidated Laboratory Services

HYDROGEN SULFIDE CONTENT OF FUEL GAS STREAMS IN PETROLEUM REFINERIES EPA METHOD 11					
Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Were sample trains purged with process gas for two minutes prior to opening the sampling valve?	8.3				
Were flow rates constant to within $\pm 10\%$ during the testing?	8.4				
Were Dry Gas Meter and sample train temperatures recorded?	8.4, 8.5				
Was sampling conducted for at least 10 minutes?	8.5				
Were final volumes and temperatures recorded at the end of sampling?	8.5				
Were leak checks of sample trains done after sampling?	8.5				
Were sample trains purged with ambient air for 15 minutes after leak check?	8.6				
Was a log of all calibrations kept?	10.1				
Were Dry Gas Meters calibrated by three independent calibration runs prior to use in the field?	10.1.1.1				
Were at least five revolutions done for each calibration run with Y factors being calculated for each run?	10.1.1.1				
Were the Y factors averaged, and all Y factors in a calibration were determined to be within 2% of the average?	10.1.1.1				
After each testing event, were calibrations repeated, and Y factor averages determined to be within 5% of the initial calibration Y factor averages?	10.1.1.2				
If the post-sampling calibration deviated by more than 5%, was the Y factor average that yielded the lower gas volumes for each run used?	10.1.1.2				
Were temperature sensors verified against mercury thermometers?	10.1.2				
Notes/Comments:					

HYDROGEN SULFIDE CONTENT OF FUEL GAS STREAMS IN PETROLEUM REFINERIES EPA METHOD 11					
Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Were barometers verified against mercury a barometer?	10.1.4				
Were the 0.01N Iodine Solutions standardized daily to measure exact normality?	10.2.1				
Were the Sodium Thiosulfate Solutions standardized weekly to measure exact normality?	10.2.2				
Were the Phenylarsine Oxide Solutions standardized weekly or after each test series, whichever is shorter?	10.2.3				
Were titration analyses of samples conducted in areas away from direct sunlight?	11.0				
Were the contents of the third, fourth, and fifth impingers rinsed with water into a container?	8.7.1				
If Antifoam B was not used, or if significant quantities of yell CdS remained in impingers after rinsing, were impingers rinsed one-by-one with iodine solution in a flask?	11.2				
Were flasks kept stoppered as much as possible?	11.1				
Were acidified iodine flasks allowed to stand for 30 minutes in the dark?	11.3				
Was a CdSO <sub>4</sub> blank prepared and titrated in the same ways as the samples?	11.4				
Were samples and acidified iodine solution combinations titrated with either 0.01N sodium thiosulfate or 0.01N phenylarsenine?	11.5				
Notes/Comments:					